

# IN OUR BACKYARD

DEC 11 1990



AN UPDATE FROM THE ALBERTA SPECIAL WASTE MANAGEMENT CORPORATION

## Ryley Breaks New Ground



*Dignitaries at the Sod-Turning Ceremony, left to right: Chuck McBurney, Reeve of the County of Beaver; Owen Pinell, President of Newalta; Brian Lyons, Chair of the Liaison Committee; Ralph Klein, Minister of the Environment; Derek Fox, Vegreville MLA; and George Knudslein, Mayor of Ryley.*

The village of Ryley, 84 kilometres east of Edmonton, has won national acclaim for its progressive attitudes towards waste management. It was among the first communities to offer a location for the Alberta Special Waste Treatment Centre. It has demonstrated leadership in recycling programs and the organization of Toxic Round-Ups. And its imagina-

tive composting program has stimulated similar efforts by communities and individuals across the country.

In the spring of 1989, on the recommendation of a Citizens' Advisory Committee, the village council proposed that a Waste Transfer Station be established within the village's boundaries. Such a facility

would not only help to ensure proper waste disposal and control unlawful dumping - but would attract new industry and income to the community. Eighty-seven percent of citizens at the initial public meeting voted in favour of the proposal.

This year, the proposal has become a reality. On Thursday, September 6, Environment Minister Ralph Klein turned the sod on an integrated waste management facility that will become one of the few privately operated operations of its kind in western Canada.

To be built and operated by Newalta Corporation, the facility consists of a hazardous waste transfer station and a Class 1 secure landfill expected to be operational by February of next year. A proposed third phase sees the addition of a specialized incinerator for non-hazardous industrial waste.

Newalta expects the facility to employ upwards of 20 people with an immediate economic impact on the area in excess of three-quarters of a million dollars annually. The initial capital investment by Newalta is approximately \$3 million.

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Produced every two months by the Alberta Special Waste Management Corporation, "In Our Backyard" is intended to keep Albertans updated on issues and solutions in hazardous waste management. You can contribute to the process by "recycling" this newsletter. Pass it on to a friend with your comments. And, should you have suggestions you wish to share, pass them on to us. Our address, phone and fax number are on Page 4.

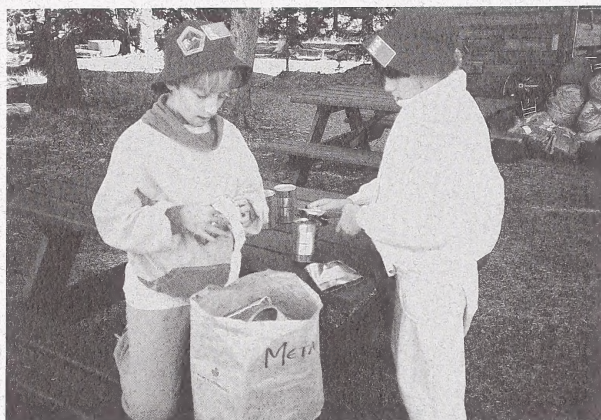


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# Guiding the Future



Yes, we can! Sonia Edworthy and Paige Gardiner of the 56 Guide Company, peel off paper labels and cut the bottom off cans prior to squashing and recycling.

Photo: Helen Perry

It should come as no surprise to discover that, among the most innovative and practical crusaders for the environment are the Girl Guides of Canada.

Nowhere is this more evident than in our own province - where the Alberta Council of the Girl Guides now includes the **Special Waste Management Challenge** in badge programs for guiders at all levels.

In July, Provincial Program Commissioner Susan Ormsbee

evaluated all 1989 responses to the Challenge program and summarized the results. They showed not only a high level of participation but a level of involvement that exceeded all expectations.

*Altogether, 35 groups responded with 686 people completing the Challenge and receiving the achievement crest. Interestingly, this total includes nearly 100 adults.*

Most of the participants completed the Challenge in one to three months. Some units

took part at camp and so completed the activities in two or three days. One group used the Challenge as its theme for the year and turned it into a ten-month program.

The Special Waste Management Challenge can be incorporated nicely into existing programs. For Brownies, it's a step towards the Golden Bar and the Golden Hand. For Guides, it contributes towards Ecologist, Conservationist and Industrial Badges.

The Challenge stimulated a wide range of associated activities. Guides and Brownies participated in the Earth Day parade, wrote letters of concern to civic, provincial and national politicians, created displays, and carried out experiments in recycling and bio-degradation.

One girl expanded the Challenge into a Science Fair project, progressing all the way to the National Science Fair in Ontario.

All 35 of the group leaders responding said that they enjoyed taking the Challenge, and when asked if, as Guiders, they would repeat the Challenge, 34 of the 35 said yes.

"I would like to thank Alberta Special Waste Management Corporation for sponsoring this Challenge," writes Commissioner Ormsbee. "591 girls have benefitted."

# Friendly Fungi

Dr. Steve Davies, Head of Biotechnology at the Alberta Environmental Centre in Vegreville, recently updated us on a promising new method of destroying polychlorinated biphenyls - better known as PCBs. Researchers at the Centre have now completed the first stage of a project which involves screening over 100 different fungi for their ability to break down these synthetic compounds biochemically.

The purpose of the research is to find alternative methods of cleaning up environmental contamination caused by PCB spills and to develop practical new ways of decontaminating transformers.

*"A biological approach to the destruction of hazardous organics has some advantages over such treatments as incineration or encapsulation," says Dr. Davies. "It's cheap, not high-energy, creates no stack gases, and may eliminate the need to transport soil for treatment."*

The fungi being examined are of the white rot species - the type which occur as wood rot in nature, where they serve to decompose dead wood in forests. These fungi can break down both cellulose and lignin - the hard-to-digest molecules commonly found in plants - and they appear to have the same destructive effect on PCBs.

In the Vegreville experiment, the research team is looking at the rate of PCB removal, the environmental conditions that stimulate the process, and the by-products of the process.

## PARTICIPANTS WERE AS FOLLOWS:

	GIRLS	ADULTS
Sparks	11	2
Brownies	482	72
Guides	74	15
Pathfinders	19	6
Cadets	0	0
Jr. Leaders	0	0
Rangers	5	0
<b>TOTALS</b>	<b>591</b>	<b>95</b>

## HEADS-UP PLAY

Scrap nylon from a plant in Kingston is being transformed into hockey helmets because of a philosophy at DuPont Canada Inc. that it should try to turn waste materials into saleable products.

- Report on Business,  
4 February, 1989

continued to next page



## FRIENDLY FUNGI (continued)

How do you train fungi to attack PCBs? Apparently, it's a little more complicated than pointing at the stuff and yelling, "Sic 'em!"

PCB samples are exposed to different fungi, then each sample is extracted and examined to measure the rate of decomposition. It's an exacting procedure but Dr. Davies reports that the team is having some success and that we can expect an interesting summary of the project in about a year from now.

Present experimentation is considering either using the fungi *in situ* or excavating the contaminated soil for treatment in a controlled environment.

This controlled environment would be something like a bio-reactor - a container in which to expose the contami-

nated soil to the microbes while controlling temperature, air flow, nutrients and moisture levels to speed up the process. The latter treatment would obviously be more costly than treatment on site.

The Vegreville research is funded by the Alberta Special Waste Management System. The contract to develop biochemical techniques for the destruction of PCBs is currently in its second year.

### TRASH CASH

Up to 50% of our household waste materials can be recycled.

## Voles and Vapours

The effectiveness of the environmental monitoring at the Alberta Special Waste Treatment Centre was clearly demonstrated during a routine check last fall.

Every June and September, scientists collect information on the air, soil, water, vegetation and wildlife in the area for comparison with data collected before the plant was opened.

As part of the program, tissue samples are taken from the area's most common small mouse - Gapper's red-backed vole.

During the regular September check, minute changes were detected in PCB levels in the vole population.

Even though the increase was well within acceptable limits, an extensive toxicological study was begun involving air modelling and testing of incinerator emissions.

The independent study concluded that there was no risk to humans or wildlife and that the source of the PCB trace was not incinerator emissions. It appeared to come from the vapours and fumes that occur during normal handling of PCB wastes.

As a result of these findings, a review of all PCB handling procedures has been undertaken and PCB transformer processing has been postponed until a new process can be implemented. In addition, information is being circulated to all major PCB handlers in the province to explain the occurrence and to suggest more secure handling measures.

The Alberta Special Waste Treatment Centre is the only known chemical processing plant to employ this level of monitoring. Fume levels at the Treatment Centre, incidentally, are *at least 15 times below* those allowed by Alberta Occupational Health and Safety for occupational exposure.

## Alternatives

Public convenience. Toilet. Powder room. It seems everyone has a different name for the lavatory. Mom calls it the 'bathroom' while Mom's mom refers to it as the 'convenience' or 'little girls' room'. For builders, it's a simple 'water closet' or 'W.C.' - considerably less snooty than the 'comfort station' used by parks supervisors and expensive engineers. Soldiers call it a 'latrine'. Sailors call it a 'head'. And building managers discreetly avoid its true function by referring to the 'washroom' or 'rest room'.

But no matter what we call it, germs call it home. So we're faced with the continual challenge of keeping the lavatory clean without messing up the environment. Re-enter Mom's mom. Use these alternatives, she says, and you'll clean up in more ways than one:

Product	Hazard	Recommended Disposal Method	Alternative
Toilet Cleaners	Corrosive, toxic, irritant	Store safely until a toxic round-up is organized in your community.	Toilet brush and baking soda; mild detergent
Disinfectants	Corrosive, toxic	Fully use disinfectant so that nothing remains in the container. Rinse container and dispose of in garbage.	1/2 cup Borax in one gallon of water
Drain Cleaners	Corrosive, toxic	Store safely for your local toxic round-up.	Plunger, flush with boiling water, 1/4 cup baking soda, and 2 oz. vinegar

### IT'S JUST AS BAD IN METRIC

"The average American citizen generates approximately 1,800 pounds of waste over the course of a year. It is estimated that the average household contains three to ten gallons of hazardous waste at any given time, and an additional five to ten gallons of waste potentially harmful to the environment."

- Randy R. Royer,  
Hazardous Waste  
Management Magazine,  
May 1988



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## Training the Trainers

Community education and involvement are essential if Alberta is to successfully implement waste management solutions. So the job of taking the message to the people receives a high priority with the Alberta Special Waste Management Corporation.

From the spring of 1989 to the spring of 1990, ASWMC personnel led community study programs in twelve widely dispersed Alberta communities. The study programs comprised three or four sessions of two

hours' duration, covering the scope of the hazardous waste problem, the solution available through the Alberta Special Waste Management System, and the ways in which individuals and communities can take action. At the conclusion of the study programs, participating groups make specific recommendations for action in their respective local councils.

This program has been so well received that, in order to make it more widely available, the Corporation developed a

second edition of the program study guide, suited for use in educational settings.

By providing group leaders at the community level with training that enables them to guide groups through the study process, the Corporation is able to reach a larger audience and relieve some of the burden on its much-travelled staff.

Called, "In Our Back Yard", this training program is being offered this fall and winter to people who have been on a waiting list with the Corporation. Once the program has been evaluated with the help of feedback from the participants, a decision will be made about offering a second round.

If you are interested in taking this specialized training, to assist your own home town or communities in your area, please call ASWMC at 1-800-272-8873.

### MANUFACTURING MADNESS

The expression, "Mad as a hatter" originated from the fact that mercurous nitrate was used in the manufacture of felt hats. Its effects could produce the uncontrollable spasms once called St. Vitus's Dance.

- *Curious Facts;*  
*Secker & Warburg*

## CALL DIRECT:

- ▲ For information on:
  - Hazardous Waste Management Programs in Alberta
  - Toxic Round-Ups
  - Community Study Groups**ALBERTA SPECIAL WASTE MANAGEMENT CORPORATION**  
1-800-272-8873  
422-5029 (Edmonton)  
428-9627 (Fax)
- ▲ For information on the transportation of dangerous goods:  
**ALBERTA PUBLIC SAFETY SERVICES**  
1-800-272-9600

- ▲ For a directory of waste management companies in Alberta:  
**ALBERTA SPECIAL WASTE SERVICES ASSOCIATION**  
424-6384 (Edmonton)

- ▲ For information on:
  - Used Oil Program
  - Recycling: Newspaper, Metals, Plastics, Clothing**RECYCLING BRANCH, ALBERTA ENVIRONMENT**  
427-5838 (Edmonton)  
297-5923 (Calgary)

- ▲ To report an environmental emergency or register a complaint:  
**POLLUTION CONTROL DIVISION, ALBERTA ENVIRONMENT**  
1-800-222-6514

- ▲ To access the clearing house that puts potential users of waste materials in contact with waste producers:  
**ALBERTA WASTE MATERIALS EXCHANGE**  
450-5408 (Edmonton)

**ALBERTA SPECIAL WASTE MANAGEMENT CORPORATION**  
610 - 10909 Jasper Ave.  
Edmonton, Alberta  
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